

wxWidgets library

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1. Introduction

As stated on the official site (see references).

wxWidgets is a C++ library that lets developers create applications for Windows, macOS, Linux and other platforms with a single code base.

wxWidgets is a programmer’s toolkit for writing desktop or mobile applications with graphical user interfaces (GUIs).

It has popular language bindings for *Python*, *Perl*, *Ruby* and many other languages, and unlike other cross-platform toolkits, wxWidgets gives applications a truly native look and feel because it uses the platform’s native API rather than emulating the GUI.

wxWidgets provides classes for files and streams, multiple threads, application settings, interprocess communication, online help, database access, and much more.

1.1. References

[Main Site](#)

[Documentation](#)

[Wiki](#)

1.1.1. Books

Cross-Platform GUI Programming with wxWidgets

by Julian Smart and Kevin Hock with Stefan Csomor
Prentice Hall
2006 Pearson Education

2. Cookbook

2.1. Installation and Build

2.1.1. Windows + Visual Studio

I am going to test and document the installation and the build of a solution based on different documentation found on site.

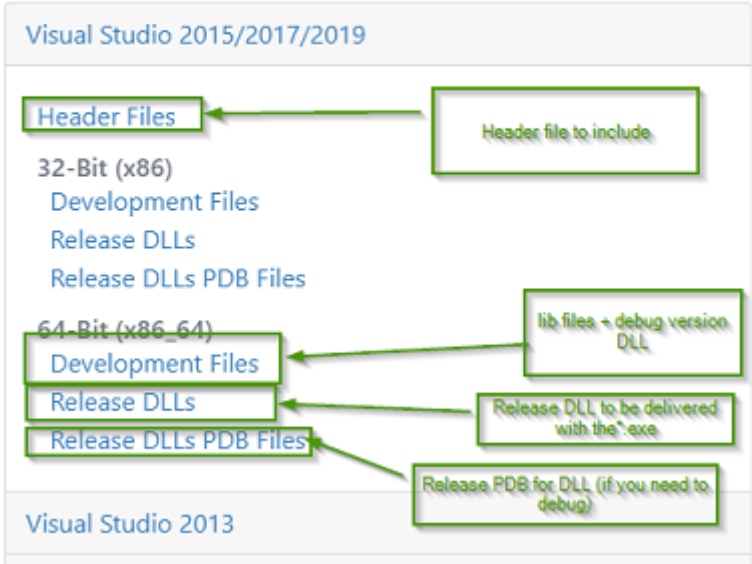
I’ll use the development version 3.1.5.

1. Get the binaries, sources and header files.

If you are using one of the supported compiler, like Visual Studio C++ compiler, you can use **the prebuild binaries**.

https://docs.wxwidgets.org/trunk/plat_msw_binaries.html

The binaries are available at: https://www.wxwidgets.org/downloads#v3.1.5_msw



wxMSW-3.1.5_vc14x_x64_Dev.7z	Development files, libs, debug DLL, wxwidgets.props file
wxWidgets-3.1.5-headers.7z	Header files
wxMSW-3.1.5_vc14x_x64_ReleaseDLL.7z	Release dlls
wxMSW-3.1.5_vc14x_x64_ReleasePDB.7z	Release PDBs
wxWidgets-3.1.5.zip	Archived sources

2. Unzip the header files and the lib

- Create the folder for lib and includes :

D:\ccp_vhdd_app\wxWidgets

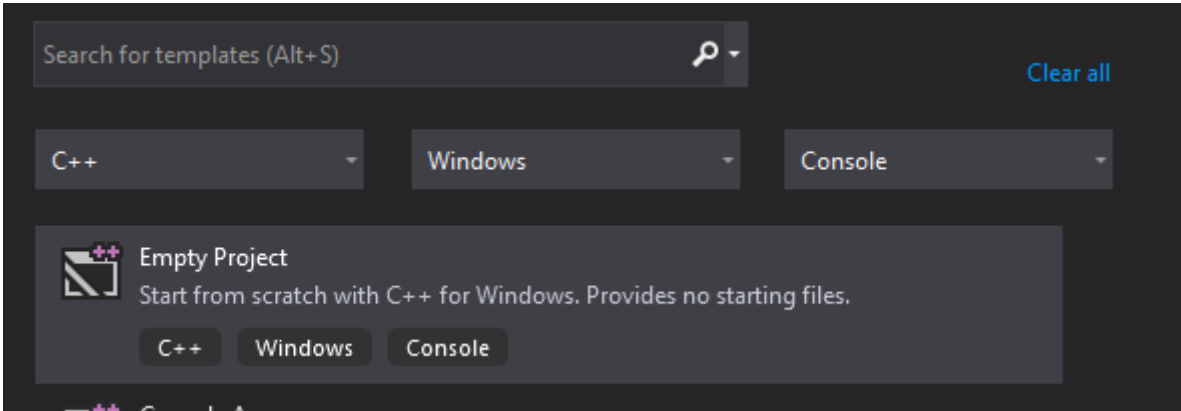
- Create environment variable WXWIN that point to the lib + header folder
- Unzip wxMSW-3.1.5_vc14x_x64_Dev.7z + wxWidgets-3.1.5-headers.7z to \$WXWIN folder

The resulted structure is :

Name	D
build	1\
include	1\
lib	1\
wxwidgets.props	1\

3. Using wxWidges with Visual Studio

- Create a new empty C++ solution



- Add the following program to solution. Program get from https://docs.wxwidgets.org/3.0.5/overview_helloworld.html

```

// The program has been copied from wxWidgets site
// https://docs.wxwidgets.org/3.0.5/overview_helloworld.html

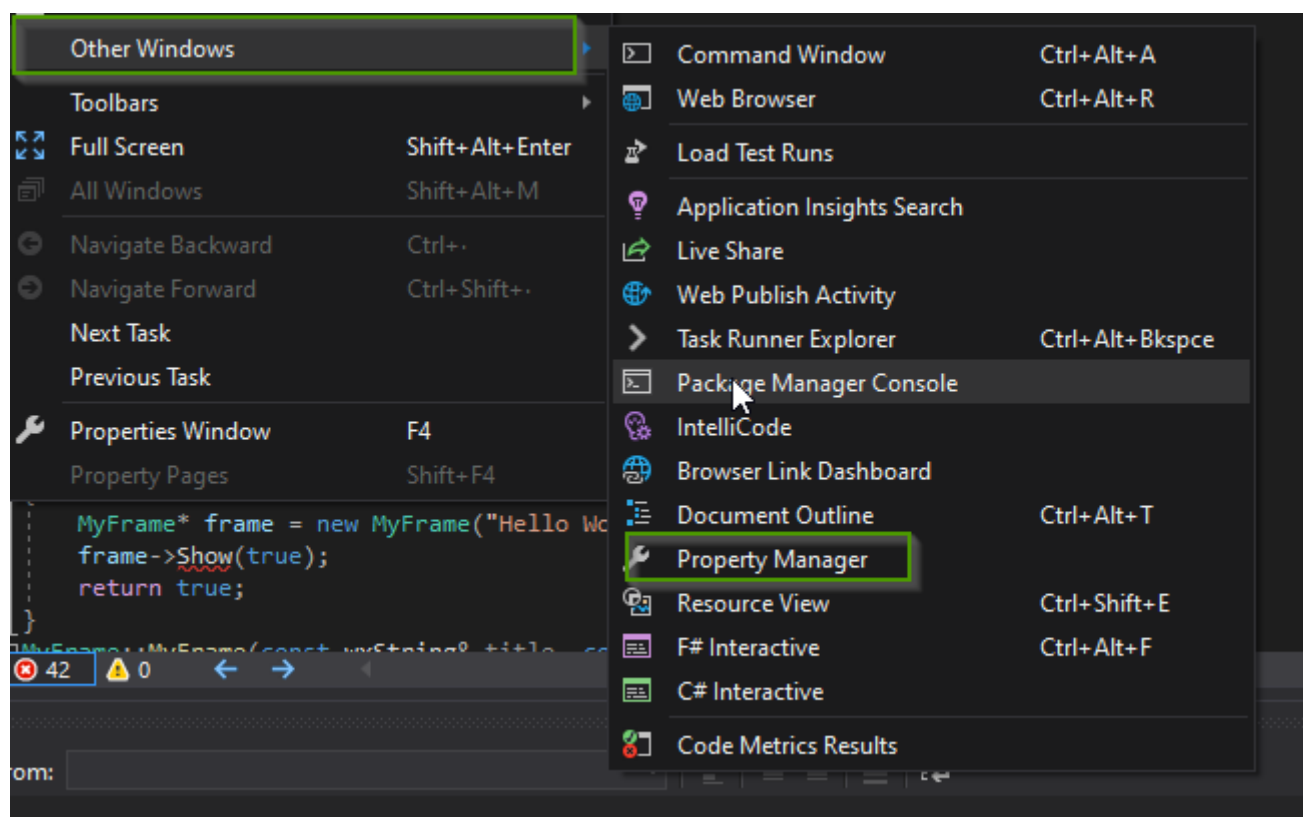
// wxWidgets "Hello world" Program
// For compilers that support precompilation, includes "wx/wx.h".

#include <wx/wxprec.h>
#ifdef WX_PRECOMP
#include <wx/wx.h>
#else
#endif
class MyApp : public wxApp
{
public:
    virtual bool OnInit();
};
class MyFrame : public wxFrame
{
public:
    MyFrame(const wxString& title, const wxPoint& pos, const wxSize& size);
private:
    void OnHello(wxCommandEvent& event);
    void OnExit(wxCommandEvent& event);
    void OnAbout(wxCommandEvent& event);
    wxDECLARE_EVENT_TABLE();
};
enum
{
    ID_Hello = 1
};
wxBEGIN_EVENT_TABLE(MyFrame, wxFrame)
EVT_MENU(ID_Hello, MyFrame::OnHello)
EVT_MENU(wxID_EXIT, MyFrame::OnExit)
EVT_MENU(wxID_ABOUT, MyFrame::OnAbout)
wxEND_EVENT_TABLE()
wxIMPLEMENT_APP(MyApp);
bool MyApp::OnInit()
{
    MyFrame* frame = new MyFrame("Hello World", wxPoint(50, 50), wxSize(450, 340));
    frame->Show(true);
    return true;
}
MyFrame::MyFrame(const wxString& title, const wxPoint& pos, const wxSize& size)
    : wxFrame(NULL, wxID_ANY, title, pos, size)
{
    wxMenu* menuFile = new wxMenu;
    menuFile->Append(ID_Hello, "&Hello...\tCtrl-H",
        "Help string shown in status bar for this menu item");
    menuFile->AppendSeparator();
    menuFile->Append(wxID_EXIT);
    wxMenu* menuHelp = new wxMenu;
    menuHelp->Append(wxID_ABOUT);
    wxMenuBar* menuBar = new wxMenuBar;
    menuBar->Append(menuFile, "&File");
    menuBar->Append(menuHelp, "&Help");
    SetMenuBar(menuBar);
    CreateStatusBar();
    SetStatusText("Welcome to wxWidgets!");
}
void MyFrame::OnExit(wxCommandEvent& event)
{
    Close(true);
}
void MyFrame::OnAbout(wxCommandEvent& event)
{
    wxMessageBox("This is a wxWidgets' Hello world sample",
        "About Hello World", wxOK | wxICON_INFORMATION);
}
void MyFrame::OnHello(wxCommandEvent& event)
{
    wxLogMessage("Hello world from wxWidgets!");
}

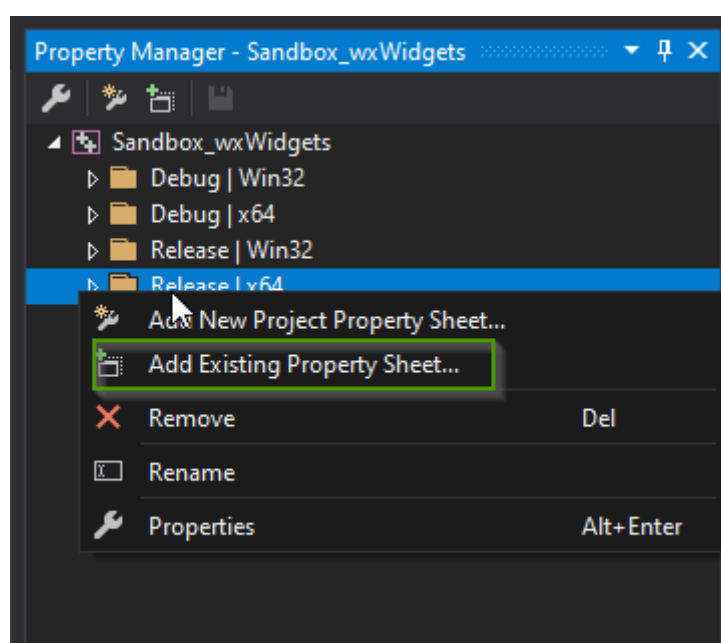
```

- Set the project to use the wxWidgets files. For this include the file **wxwidgets.props** as property sheet for the project.

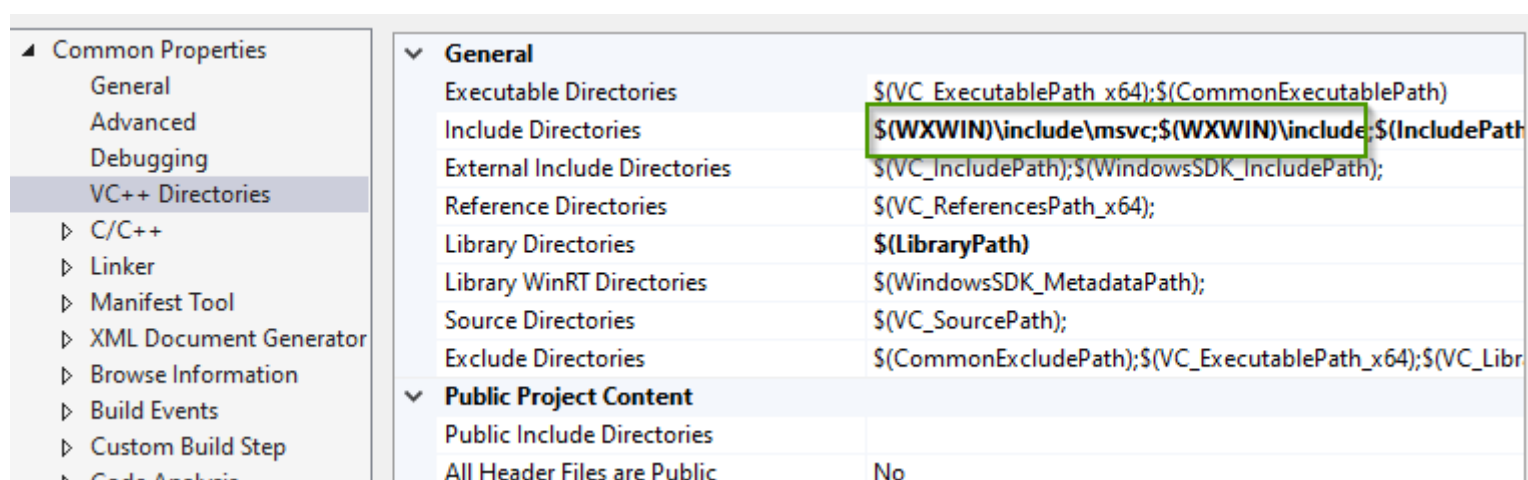
- Select View/Other windows



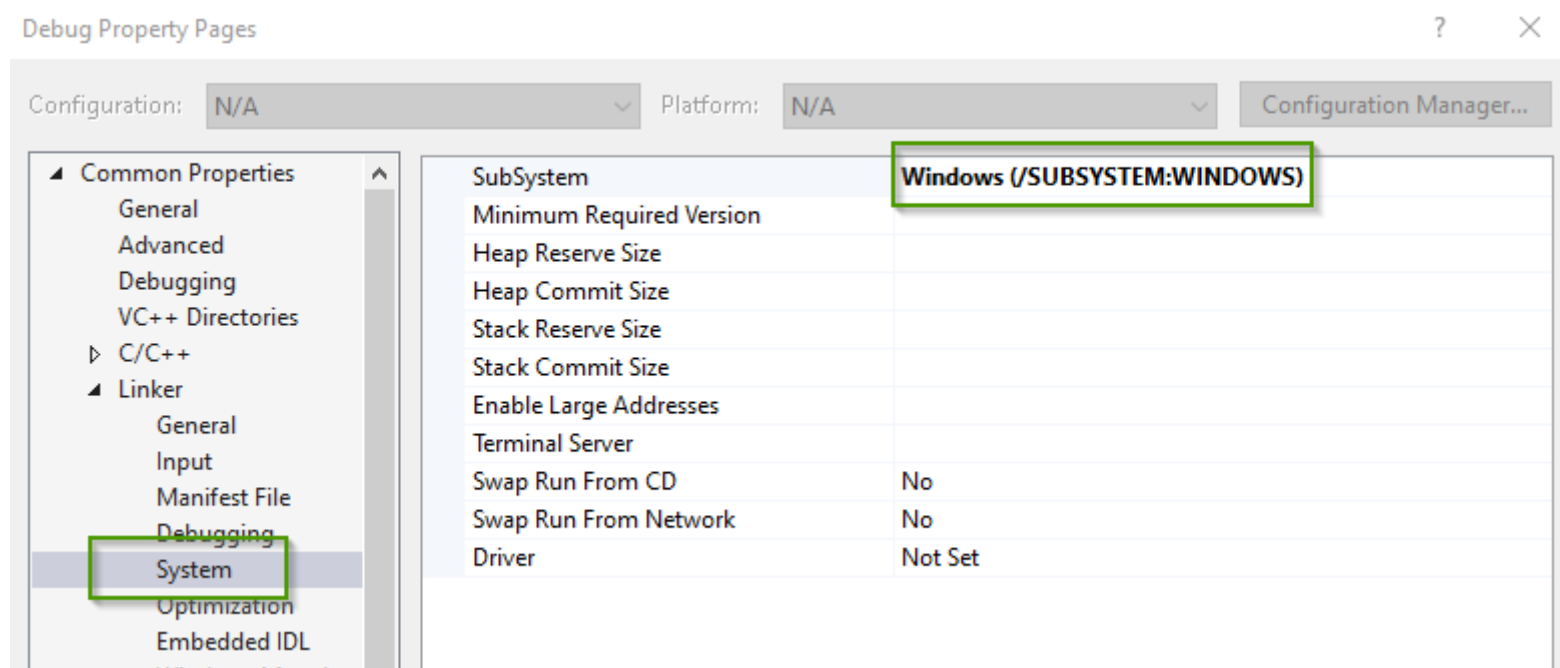
- For each configuration that you will use right click and select



- Add \$(WXWIN)\include\msvc;\$(WXWIN)\include to compiler folder

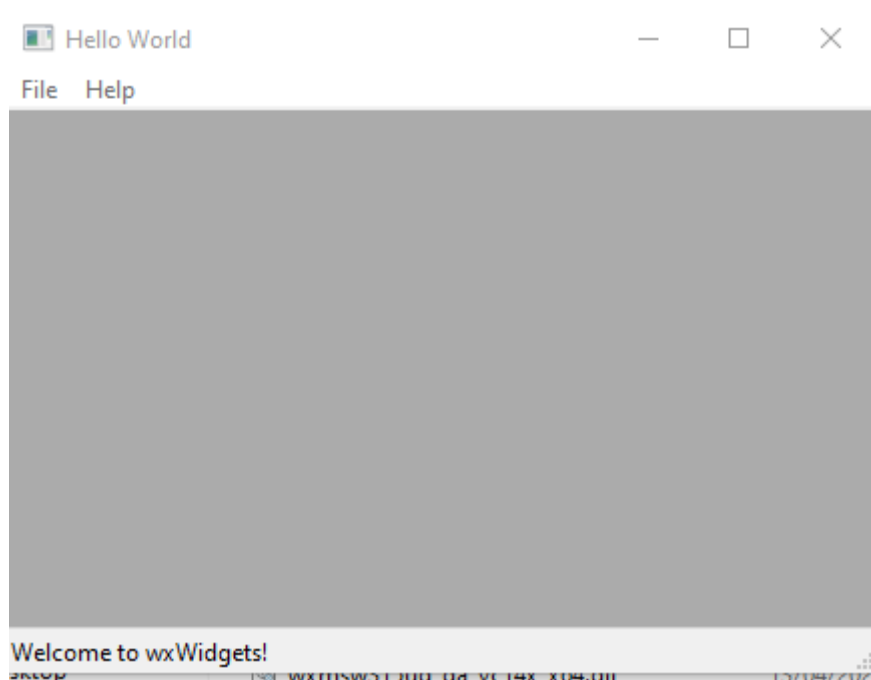


- Set Windows (/SUBSYSTEM:WINDOWS) for linker



4. Build and run project

Here it is the "Hello World" application:



















Note: To run the application needs the DLLs (release or debug).

• Release

Name	Date modified	Type	Size
wxbase315u_net_vc14x_x64.dll	13/04/2021 13:00	Application exten...	266 KB
wxbase315u_vc14x_x64.dll	13/04/2021 12:59	Application exten...	2,707 KB
wxbase315u_xml_vc14x_x64.dll	13/04/2021 13:05	Application exten...	178 KB
wxmsw315u_adv_vc14x_x64.dll	13/04/2021 13:04	Application exten...	11 KB
wxmsw315u_aui_vc14x_x64.dll	13/04/2021 13:06	Application exten...	628 KB
wxmsw315u_core_vc14x_x64.dll	13/04/2021 13:04	Application exten...	8,269 KB
wxmsw315u_gl_vc14x_x64.dll	13/04/2021 13:07	Application exten...	92 KB
wxmsw315u_html_vc14x_x64.dll	13/04/2021 13:05	Application exten...	764 KB
wxmsw315u_media_vc14x_x64.dll	13/04/2021 13:04	Application exten...	127 KB
wxmsw315u_propgrid_vc14x_x64.dll	13/04/2021 13:06	Application exten...	860 KB
wxmsw315u_qa_vc14x_x64.dll	13/04/2021 13:05	Application exten...	174 KB
wxmsw315u_ribbon_vc14x_x64.dll	13/04/2021 13:06	Application exten...	426 KB
wxmsw315u_richtext_vc14x_x64.dll	13/04/2021 13:07	Application exten...	1,908 KB
wxmsw315u_stc_vc14x_x64.dll	13/04/2021 13:07	Application exten...	1,543 KB
wxmsw315u_webview_vc14x_x64.dll	13/04/2021 13:05	Application exten...	169 KB
wxmsw315u_xrc_vc14x_x64.dll	13/04/2021 13:06	Application exten...	948 KB

• Debug

 wxbase315ud_net_vc14x_x64.dll	13/04/2021 13:11	Application exten...	487 KB
 wxbase315ud_vc14x_x64.dll	13/04/2021 13:11	Application exten...	4,522 KB
 wxbase315ud_xml_vc14x_x64.dll	13/04/2021 13:15	Application exten...	396 KB
 wxmsw315ud_adv_vc14x_x64.dll	13/04/2021 13:14	Application exten...	39 KB
 wxmsw315ud_aui_vc14x_x64.dll	13/04/2021 13:16	Application exten...	1,159 KB
 wxmsw315ud_core_vc14x_x64.dll	13/04/2021 13:14	Application exten...	14,975 KB
 wxmsw315ud_gl_vc14x_x64.dll	13/04/2021 13:17	Application exten...	173 KB
 wxmsw315ud_html_vc14x_x64.dll	13/04/2021 13:15	Application exten...	1,291 KB
 wxmsw315ud_media_vc14x_x64.dll	13/04/2021 13:14	Application exten...	236 KB
 wxmsw315ud_propgrid_vc14x_x64.dll	13/04/2021 13:16	Application exten...	1,429 KB
 wxmsw315ud_qa_vc14x_x64.dll	13/04/2021 13:15	Application exten...	282 KB
 wxmsw315ud_ribbon_vc14x_x64.dll	13/04/2021 13:16	Application exten...	748 KB
 wxmsw315ud_richtext_vc14x_x64.dll	13/04/2021 13:16	Application exten...	3,231 KB
 wxmsw315ud_stc_vc14x_x64.dll	13/04/2021 13:16	Application exten...	3,885 KB
 wxmsw315ud_webview_vc14x_x64.dll	13/04/2021 13:15	Application exten...	351 KB
 wxmsw315ud_xrc_vc14x_x64.dll	13/04/2021 13:16	Application exten...	1,469 KB

3. Programming notes

You need not to define a main/Winmain function. A system of macros generates the necessary function.

The macro wxIMPLEMENT_APP should be called only once with the derived App class for your application.

```
// Use this macro exactly once, the argument is the name of the wxApp-derived
// class which is the class of your application.
#define wxIMPLEMENT_APP(appname) \
    wxIMPLEMENT_WX_THEME_SUPPORT \
    wxIMPLEMENT_APP_NO_THEMES(appname)
```